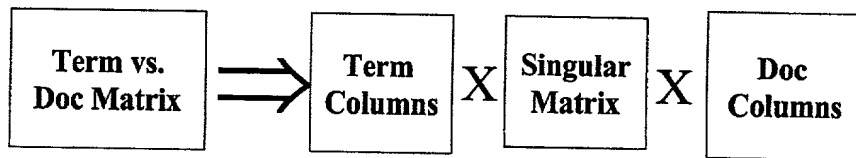


|          | Doc #1 | Doc #2 | ... | Doc #n |
|----------|--------|--------|-----|--------|
| able     | 1      | 0      | ... | 1      |
| acid     | 0      | 2      | ... | 0      |
| ...      | ...    | ...    | ... | ...    |
| <term m> | 1      | 0      |     | 1      |

**FIGURE 1 Term by Document Matrix**

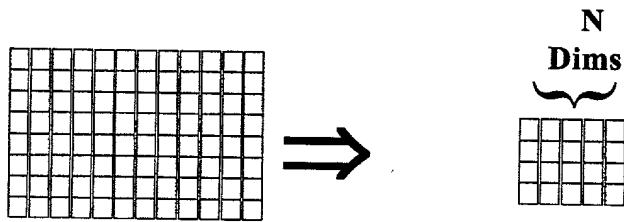
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**SVD Extracts Key Relationships among  
Terms - Basis for Conceptual Matching**

**FIGURE 2 – Singular Value Decomposition (SVD) Operation**

FIGURE 2 – Singular Value Decomposition (SVD) Operation



**Large, Sparse Matrix**

**LSI Vector Space**

**Typically,  $N = \text{Several Hundred}$**

**FIGURE 3 – Dimensionality Reduction**

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FIGURE 4

